

BUILDINGENERGY NYC

TKP New York Conference Center

Thursday, October 12, 2017

Conference + Trade Show

#BENYC17

Welcome from the 2017 Conference Co-Chairs

As conference Co-Chairs, it is our pleasure to welcome you to the 2017 BuildingEnergy NYC Conference + Trade Show! We are thrilled to join you in supporting the Northeast Sustainable Energy Association's (NESEA) mission. Now more than ever, our city and region are compelled to adopt sustainable energy practices in the built environment. NESEA offers the opportunity to cultivate a robust community where practitioners share, collaborate, and learn.

As always, the BuildingEnergy NYC conference hosts a wide variety of session topics, exhibitors, and attendees. This diverse offering is ideal for advancing efficient buildings, increasing renewable energy production, and identifying new technologies in New York City and beyond. We are confident that the collaboration, knowledge sharing, and networking between attendees of this year's conference will help move our industry towards realizing and surpassing ambitious City and State environmental goals. Our success in this endeavor promises to position New York City as a global leader in sustainability and reveal the possibilities and opportunities of the future.

We sincerely thank you all for attending and helping make BuildingEnergy NYC 2017 a success. This conference and associated forward progress of sustainable energy practices would not be possible without each and every one of you. We hope you enjoy the conference and look forward to learning with you!

Sincerely,



Ryan Cassidy (*RiseBoro Community Partnership*)
Eric Davis (*Con Edison*)

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Schedule At A Glance

Trade Show Floor Open 8am - 6pm	Registration 8am - 9am
	Opening Remarks 9am - 9:15am
	Session 1 9:30am - 11am
	Session 2 11:30am - 12:30pm
	Lunch 12:30pm - 1:30pm
	Session 3 1:30pm - 3pm
	Session 4 3:30pm - 4:30pm
	Reception 4:30pm - 6pm

What is NESEA?

BuildingEnergy conferences are programs of the Northeast Sustainable Energy Association (NESEA). NESEA helps high-performance building, energy efficiency, and renewable energy professionals improve their practices by learning from and networking with each other. NESEA is a member-driven 501(c)(3) non-profit organization, whose mission is to advance the adoption of sustainable energy practices in the built environment by cultivating a community where practitioners share, collaborate, and learn. Learn more about NESEA programs and membership at nesea.org.

BuildingEnergy conferences are curated by a group of volunteer NESEA members. Many thanks to this year's team.

Conference Co-Chairs

Ryan Cassidy, *RiseBoro Community Partnership* & Eric Davis, *Con Edison*

Session Champions

Amelia Amon, *Alt. Technica*
 Bomee Jung, *NYCHA*
 Charles Umberger, *Con Edison*
 Chris Benedict, *Chris Benedict, R.A.*
 Christopher Diamond, *NYC Department of Design & Construction*
 Cindy Malinchak, *Philips Lighting*
 Ellen Honigstock, *Urban Green Council*
 Gwen McLaughlin, *TRC Companies*
 H.G. Chissell, *Advanced Energy Group*
 Ken Levenson, *475 High Performance Building Supply*
 Ken McCauley, *127 Energy*
 Lauren Moss, *NORESCO*
 Leia Sims, *KOW Building Consultants*
 Loic Chappoz, *NYSERDA*
 Nora Sherman, *CUNY Building Performance Lab*
 Stuart Brodsky, *NYU Schack Institute of Real Estate*
 Tone Søndergaard, *Danish Cleantech Hub*



Save the Dates!

BuildingEnergy Boston

March 8-9, 2018 • Boston, MA • Westin Boston Waterfront

BuildingEnergy NYC

October 11, 2018 • New York, NY • TKP Conference Center



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CONFERENCE SCHEDULE

NESEA Lifetime Member Breakfast: From 8 - 9am, NESEA's Lifetime Members and their guests can enjoy breakfast in the Nolita conference room on the Concourse Level. For more information on NESEA Lifetime Membership, visit nesea.org/lifetime-members.

Welcome on the Trade Show Floor: Join us at 9am and grab a cup of coffee on the trade show floor as we kick off the day. **Jennifer Marrapese (NESEA)**

	Session 1 9:30 - 11am	Session 2 11:30am - 12:30pm	Lunch Session 12:40 - 1:20pm	Session 3 1:30 - 3pm	Session 4 3:30 - 4:30pm
East Village	The Next Frontier: Tenant Engagement in Commercial Buildings	Community Solar Coming Soon to a Rooftop Near You	NYSERDA-Sponsored: New Opportunities in the Multifamily Sector...	Transforming Affordable Housing: Mid-Rise Passive House Retrofits...	In Deep Water: Examining the Water-Energy Nexus at the Building Level
West Village	Beyond Resiliency for NYC Public Housing	Solving the Problem of Ventilation	Evaluate conference sessions at: nesea.org/benyc17-evaluations	Building Products of the Future: Where Are We Heading?	Engineers: Increase Your Bottom Line by Bringing Financing to the Table
Chelsea	Don't Let Thermal Bridging Undermine Your Building's Performance...	Micro Cogeneration Systems: Increasing Efficiency & Reducing Emissions		The Next Step in Benchmarking: Building Analytics, Big Data & Improved Efficiencies	Filling the Construction Personnel Workforce Vacuum to Get to 80x50
Madison	Examining the Energy Code...	Risky Business? The Reality of Making Money Making Passive Houses		Scale It Up: How NYC Agencies Will Reach 80x50	Data-Driven Decision Making with Building Energy Data Tools
Manhattan	Big Owners, Big Decisions: A Stakeholder Approach to Energy Transformation	Innovation-Driven Solutions to Reducing Heating-Related Greenhouse Gas Emissions		Mind the Gaps: Post-Occupancy Discoveries from Data & Operational Perspectives	The Smart Money is on Smart Buildings
Bryant Park	How Energy Efficiency Creates Opportunities & Financing in Multifamily Housing	ZE, LBC, in NYC?	NYSERDA-Sponsored: First Things First: Where Do I Start & How Do I Pay for It?	Solar + Storage, Microgrid BeaUtilities	Rehabilitating Steam Heat: Going Beyond Boiler Replacements

NYSERDA-Sponsored Lunchtime Sessions

First Things First: Where Do I Start & How Do I Pay for It? You are confronted with countless choices every day. Some can have a big impact on your business and our planet, especially when it comes to how we use energy. So how do you know what choices to make? You need the right data. NYSERDA can help you get the right data to make smart energy choices. And how do you pay for it? NYSERDA offers funding to help offset the cost of energy studies and energy management. Find out how to get the data you need to make the right choices without breaking the bank. **Sophie Cardona & Michael Reed (NYSERDA)**

New Opportunities in the Multifamily Sector: High-Performance Retrofits & Real Time Energy Management: High-performance retrofits and the use of new technologies to monitor and improve building performance are becoming more accessible for multifamily buildings. NYSERDA will present several exciting new and upcoming opportunities that allow you and your clients to be at the forefront of energy efficiency such as RetrofitNY and the Real Time Energy Management Program. **Loic Chappoz (NYSERDA)**

East Village	The Next Frontier: Tenant Engagement in Commercial Buildings Achieving top-level energy performance in a multi-tenant commercial building has its challenges. Some of the best-performing commercial buildings have one important element in common: owners and tenants working together toward a unified goal of energy efficiency. However, owners and tenants face a range of barriers to meaningful coordination that delay or prevent uptake of energy efficiency and cost saving measures. As part of this session, panelists will highlight creative solutions that they have implemented to break down barriers among them and enable greater efficiency and sustainability improvements than either party could achieve on its own. Dan Egan (Vornado Realty Trust), Gary Fescine (BlackRock), Patrick Love (NYC Mayor's Office of Sustainability), Chelsea Mozen (Etsy), Paul Rode (RXR Realty) CI H 1.5 AIA LU HSW, 1.5 BPI
West Village	Beyond Resiliency for NYC Public Housing It is becoming increasingly clear that existing buildings and communities are unprepared to withstand extreme weather events and shifting conditions associated with climate change, leaving low-income communities especially vulnerable. Investing in at-risk communities before disaster strikes is one of the most cost-effective ways to protect residents and property while strengthening their ability to weather the severe storms ahead. This session will explore some of the leading initiatives that support resilient city communities and districts, along with the challenges facing affordable housing communities and available tools to help building owners, architects, and design professionals pinpoint risks to existing buildings related to changing climate conditions. Matt Fitzgerald (DNV GL), Mark Ginsberg (Curtis + Ginsberg Architects), Michele Moore (NYCHA), Deborah Morris (NYC Dept. of Housing Preservation & Development), Laurie Schoeman (Enterprise Community Partners) M RS 1.5 AIA LU HSW, 1.5 BPI
Chelsea	Don't Let Thermal Bridging Undermine Your Building's Performance: An Interactive Demonstration... As building energy codes become stricter and we understand the necessity of continuous insulation, previously neglected thermal bridges are now being brought into the spotlight and recognized as a potential Achilles heel of enclosure design. Thermal bridges can undermine insulation values and in so doing cause discomfort, condensation and moisture damage to the building. This session will explore how thermal bridges are identified, analyzed and captured in whole-building energy modeling. Illustrative examples will highlight key trouble-spots in typical buildings. An interactive demonstration with various thermal model software programs will provide the opportunity for attendees to propose and see in real-time the impact of design changes on thermal bridging. Ed May (BLDGtyp), Andrew Peel (Peel Passive House Consulting) H PH 1.5 AIA LU HSW, 1.5 BPI
Madison	Examining the Energy Code: Successes, Challenges, Approaches for the Future The Energy Code is an increasingly robust tool for improving energy efficiency in our buildings. This session will examine how far the existing code has come and identify the remaining barriers and limits. Speakers will compare and contrast the existing energy code model with performance codes and the upcoming NYStretch-Energy Code (2018) to examine the forces that will shape the future code. Chris Benedict (Chris Benedict, R.A.), Gina Bocra (NYC Department of Buildings), Priscilla Richards (NYSERDA) C 1.5 AIA LU HSW, 1.5 BPI
Manhattan	Big Owners, Big Decisions: A Stakeholder Approach to Energy Transformation Without inspiring, bold leadership from key RE owners, NYC has little chance to achieve its energy and sustainability goals. This session will provide an open platform for four of NYC's leading RE owners to discuss their needs, challenges and obstacles in delivering on NYC's envisioned energy future. Thomas Abdallah (New York Metropolitan Transportation Authority (MTA)), Jenna Agins (NYU Langone Health), Frank Martino (Columbia University), Alec Saltikoff (JPMorgan Chase & Co.) CI H RS 1.5 AIA LU HSW
Bryant Park	How Energy Efficiency Creates Opportunities & Financing in Multifamily Housing More banks are beginning to incorporate green and high performance building into their mortgage underwriting process for multifamily properties. If leading lenders begin to encourage and provide incentives for owners to pursue energy and water efficiency and renewable energy at the time of rehab, refinance or acquisition, the results could be transformative for the industry. On this panel, three leading lenders – the Community Preservation Corporation, Fannie Mae, and Bank of America – will discuss their approaches to green underwriting and opportunities for building owners to access more financing and discounts by going green. The panel will discuss pathways to helping stakeholders integrate efficiency upgrades into major capital events, like refinancing, while recommending additional measures that can be done during tenant turnover. Amy Brusloff (Bank of America), Sadie McKeown (Community Preservation Corporation), Chrissa Pagitsas (Fannie Mae Multifamily), Lindsay Robbins (NRDC) M F 1.5 AIA LU, 1.5 BPI

11:30am - 12:30pm

East Village	Community Solar Coming Soon to a Rooftop Near You The public sector and utilities are working furiously to launch community shared solar in New York City, but not much is as yet visible publicly. Unlike the “retail” solar efforts to date, which focus on lowering costs for building owners (e.g. Solarize campaign), much of the focus of the community shared solar initiatives is on providing solar access to low-income customers. Trija Case (CUNY), Bomee Jung (NYCHA), Benjamin Mandel (NYC Mayor's Office of Sustainability), Christopher Raup (Con Edison) R <i>1 AIA LU HSW, 1 BPI</i> New Opportunities in the Multifamily Sector: High Performance Retrofits & Real Time Energy Management 12:40 - 1:20pm NYSERDA-sponsored lunchtime session. See page 4 for description. Loic Chappoz (NYSERDA)
West Village	Solving the Problem of Ventilation We have to get fresh air into our buildings to maintain good indoor air quality and health of the residents. Recovering energy from the exhausting indoor air to temper incoming outdoor air makes perfect sense for optimizing energy usage. While that's a straightforward strategy, its implementation requires quite a few critical considerations – ERV or HRV, Central or in-unit, Code and incentive program compliance, placement of the units, effect on heating & cooling loads, air sealing, filtration, insulation, and so on. This session will discuss these aspects from a multifamily design, maintenance and constructability standpoint and share some interesting ventilation problems (with solutions!) encountered on field. Reinaldo Gutiérrez (Curtis + Ginsberg Architects), Manalee Nabar (Bright Power), Aleksandr Yelizarov (Monadnock Construction) M <i>1 AIA LU HSW, 1 BPI</i>
Chelsea	Micro Cogeneration Systems: Increasing Efficiency and Reducing Emissions New York City buildings account for more than 50 percent of the city's greenhouse gas emissions. If the City and State are going to meet established greenhouse gas reduction goals, small or “micro” cogeneration, or combined heat and power (CHP) systems will need to play an integral role. This session will explore the benefits those systems provide and also the challenges of high upfront costs and space requirements. Dale Desmarais (Tecogen), Julie Liu (Centsible House), Gita Subramony (Energy & Resource Solutions) CI M H <i>1 AIA LU HSW, 1 BPI</i>
Madison	Risky Business? The Reality of Making Money Making Passive Houses Conventional wisdom says that high performance buildings are expensive. That needn't be the case. From affordable to market-rate housing, Passive House projects are making financial sense, managing risk, and making money. How is this being accomplished? What are the proformas and the results? Where is the risk? What process and design innovations are necessary? Affordable and market-rate projects from Pittsburgh and New York City will inform this in-depth discussion. These are cost-effective, scalable solutions – just what our earth and its fragile climate need from the built environment. Ben Igoe (JBS), Laura Nettleton (Thoughtful Balance), Brandon Nicholson (NK Architects) F PH <i>1 AIA LU HSW, 1 BPI</i>
Manhattan	Innovation-Driven Solutions to Reducing Heating-Related Greenhouse Gas Emissions Energy consumption for heating is one of the largest producers of greenhouse gas emissions in NYC buildings. This session looks at three innovative solutions to the GHG challenge for NYC. Speakers will expound on their expertise in three distinct and compatible solutions, ranging from the launch of software that assists in finding the best performing windows and doors, the use of biofuels as a heating fuel, and non-invasive upgrades to existing steam radiators. Marshall Cox (Radiator Labs), Anthony Guerrero (NRDC), Andy Huh (Fentrend), Pat Sapinsley (NYU Tandon School of Engineering, Urban Future Lab) M <i>1 AIA LU HSW, 1 BPI</i>
Bryant Park	ZE, LBC, in NYC? Let's admit it, as New Yorkers, while we love to hear about Zero Energy building and the Living Building Challenge, we can't shut down the nagging voice in our head asking, “Can we do this here?” Our speakers will offer their experiences and give their thoughts on this question. Mark Biedron (The Willow School), Nick Jones (Eversource), Scott Kelly (Re:Vision) H <i>1 AIA LU HSW</i> First Thing's First: Where Do I Start, and How Do I Pay for It? 12:40 - 1:20pm NYSERDA-sponsored lunchtime session. See page 4 for description. Sophie Cardona & Michael Reed (NYSERDA)

AREAS OF FOCUS:

C - Codes & Standards**F** - Finance**P** - Policy**CI** - Commercial & Institutional**H** - High Performance Building**R** - Renewables**M** - Multifamily**PH** - Passive House**RS** - Resiliency & Sustainability

East Village	Transforming Affordable Housing: Mid-Rise Passive House Retrofits with Residents in Place RiseBoro Community Partnership and the Chris Benedict, R.A. team continue their groundbreaking partnership in an 12-building, 264-unit renovation of existing affordable housing to the PHIUS standard. Residents will remain in place while their buildings are transformed. The project is scheduled to begin in late 2017. The cluster includes several different building types ranging from four to six stories and will propose multiple solutions to achieving the PHIUS standard. The project is designed to be a demonstration of energy efficiency solutions for existing housing stock. Scott Short, Justin R. Milliet R. Taylor and David Newman will present several design utilizing different strategies to achieve this high level of efficiency and comfort. Chris Benedict, David Newman & Justin R. Milliet R. Taylor (Chris Benedict, R.A.), Scott Short (RiseBoro Community Partnership) M PH 1.5 AIA LU HSW, 1.5 BPI
West Village	Building Products of the Future: Where Are We Heading? New Yorkers are used to the noise of a construction crew in full swing. While those sounds remain the same, industry demands and requirements of today's building products are changing rapidly, as the request for healthy buildings and building products that entail co-benefits is ever increasing. As requirements change, there is a clear need to improve the alignment between building product research and industry demand. To help close this gap, this session will present the findings of a recent Urban Green Council and NYSEDA study and offer a panel discussion on current trends within building products and, more specifically, the type of building products that will be required in the future. John Amatruda (Vidaris), Sean Brennan (Urban Green Council), Kirsten Mariager (Danish Energy Management), Shawn Torbert (ROXUL) H 1.5 AIA LU HSW, 1.5 BPI
Chelsea	The Next Step in Benchmarking: Building Analytics, Big Data and Improved Efficiencies As detailed building consumption data becomes more readily available, what are the 'next-level' questions that we can ask to make buildings operate more efficiently? The dynamics of historically low interest rates, increasing inflation, a mature business cycle portend a trend toward the need for more proactive management of operating expenses. This session will include presentations on recent study results on data collection and active management utilizing the data analysis to improve building operations, reduce operating fees and increase valuations. Finally, there will be an interactive discussion on what's next for benchmarking and the data, including its impact on improved building operations and efficiency, disclosure law and future data-mining techniques. Nancy Anderson (Sallan Foundation), Sarah Newman (Bright Power), Barun Singh (WegoWise), Richard Yancey (Building Energy Exchange) C P M 1.5 AIA LU HSW, 1.5 BPI
Madison	Scale It Up: How NYC Agencies Will Reach 80x50 New York City's OneNYC goals to reach 80% reduction of carbon emissions by 2050 are ambitious. Perhaps even more ambitious are the city agencies' strategies to achieve this goal. Come hear the innovative plans New York City agencies are implementing to achieve this enormous task at a scale unmatched in the U.S. Mikael Amar (NYC Department of Environmental Protection), Tarek Arafat (NYC DCAS Energy Management), Caitlin Churchill & Jessica Wurwarg (NYC Department of Transportation), Christopher Diamond (NYC Department of Design and Construction), Bomee Jung (NYCHA) P 1.5 AIA LU HSW
Manhattan	Mind the Gaps: Post-Occupancy Discoveries from Data and Operational Perspectives There's a perception gap between what we think we'll get out of high-performance design and construction and what completed buildings deliver. This session looks at the issue from two perspectives: one focusing on energy data as the driver, the other on post-occupancy operations and the building as a whole. How can lessons learned from both perspectives be applied to make Day 1 – and Day 100 – as successful as they were designed to be? What does the design team need to know? How do designers and developers get building staff on board from the get-go? And what do building owners think about all this, anyway? Steve Bluestone (Helix Rebar/ICF Panels), Ben Kornfeind (Dunn Development), Ryan Merkin (Steven Winter Associates), Patrick Murphy (Vanderweil Engineers), Nora Sherman (CUNY Building Performance Lab) H 1.5 AIA LU HSW, 1.5 BPI
Bryant Park	Solar + Storage, Microgrid BeaUtilities Combining clean energy production and storage creates a new distributed generation paradigm, the interconnected microgrid. These mini-utilities are being integrated into communities for increased resiliency, decreased toxic emissions, and climate change mitigation—but can they also be beautiful? Public aesthetics are shared community values, bringing people together, rather than inciting NIMBY battles. This session will present case studies of current solar + storage systems and creative solutions for the future of how micro-grids are implemented on the community level as public beautities. Ken McCauley (127 Energy), Robert Ferry & Elizabeth Monoian (Land Art Generator Initiative), Steven Strong (Solar Design Associates) R 1.5 AIA LU HSW, 1.5 BPI

East Village	In Deep Water: Examining the Water-Energy Nexus at the Building Level To optimize building performance, it is vital to consider the water-energy nexus in a building. Because water itself has multiple purposes, there are a variety of potentially impactful strategies to consider, including hot water, heating and cooling. Based on data-driven case study findings, this session investigates the challenges, benefits, and alternative approaches available. In addition, we'll explore the metrics by which benefits are evaluated as payback time, water/energy savings, environmental impact, and life-cycle costs should all be part of the equation. Nichole Ceci (Steven Winter Associates), Laurie Kerr (Urban Green Council), Peter Korzeniewski (Grundfos) CI M RS 1 AIA LU HSW, 1 BPI
West Village	Engineers: Increase Your Bottom Line by Bringing Financing to the Table This session will focus on the energy engineer's role in leveraging energy audits and financing to do more implementation work. Financing can be used as a resource to extend capital budgets, increase payback requirements, and provide off-balance sheet and paid-from-savings options. Audits are the cornerstone of any facility's energy plan but are underutilized as a vehicle for implementation of efficiency and capital improvement projects. Financing is rarely ever discussed. The session will cover the value-proposition and process for engineering firms to incorporate financing as an implementation resource to maximize existing client relationships and get more work for their firm. It will highlight the importance of client engagement and talking to the right stakeholders when transitioning from audit to implementation services. Patrick O'Donnell (NYCEEC) F 1 AIA LU, 1 BPI
Chelsea	Filling the Construction Personnel Workforce Vacuum to Get to 80x50 Hitting 80x50 will require a workforce of construction personnel capable of implementing sustainable building solutions. Training the existing and future workforce will be a massive endeavor, and that work is already underway. This session will explore the scale and opportunity of this training endeavor, and then it will focus on a success already being seen in New York City. Michael Ingui (Baxt Ingui Architects), Adam Romano (Association for Energy Affordability) CI M F RS 1 AIA LU HSW, 1 BPI
Madison	Data-Driven Decision Making with Building Energy Data Tools When it comes to low-cost and no-cost software tools that assist multi-asset managers in pursuing energy efficiency strategies, the Internet-of-Things offers significant new management opportunities, but one size does not fit all. There is an increasing variety of free and low-cost tools available to end-users. Many have discrete offerings and targeted end-users, while others are designed to rectify the challenges of data entry interface and management protocols across various systems. This session features an update and review of software available from the US DOE and adopted by commercial vendors. It will present examples of their deployment by end-users in pursuit of rigorous decision-making, accurate management of upfront costs, higher quality predictions of returns on investments, and measured achievement of reductions in energy consumption and greenhouse gas emissions. Harry Bergmann (US DOE), Patrick Ferguson (JLL), Chien Harriman (Energy Metrics) CI M 1 AIA LU, 1 BPI
Manhattan	The Smart Money is on Smart Buildings This session will explore the various emerging technologies available to developers and building owners today; the impact smart technologies have on the bottom line and occupant experience; and how to monetize the value to each stakeholder in a smart building. We will review case studies of buildings that have incorporated smart technologies and hear from the developers, owners and occupants about their experience. David Davenport (Urban Greenfit), David Unger (Sentient Buildings), Peter Wilson (Schneider Electric) H 1 AIA LU HSW
Bryant Park	Rehabilitating Steam Heat: Going Beyond Boiler Replacements Steam heating systems serve thousands of buildings in NYC, and many of them are not operating at their potential. This open forum will explore steam heat maintenance tasks that can be performed to improve the operation of the system and the comfort of the tenants. Our panel includes a mechanical engineer who specializes in diagnosing and retro-commissioning steam systems, a director from an HVAC company, and an administrator of NYC's Retrofit Accelerator Program. We encourage you to come prepared with your steam heat challenges to ask the panel. Mina Agarabi (Agarabi Engineering), Larry Katz (ICF International), Steven Schwarzbaum (Dual Fuel Corp.), Leia Sims (KOW Building Consultants) M 1 AIA LU HSW, 1 BPI

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For a full map of the trade show floor, please see the signs located at the entrances of the Empire Ballroom.
Sponsors are listed in **green**.

475 High Performance Building Supply (Table 11)

NESEA Business Member

475 is the leader in simplified solutions for Passive House buildings in North America, providing vapor-smart airtightness from Pro Clima, natural high performance insulation from GUTEX, decentralized ventilation from LUNOS, and Passive House certified daylighting systems from LAMILUX and BEWISO. Our site, foursevenfive.com is a resource for detailed knowledge and videos aimed at making high performance enclosures of all types and sizes possible.

www.foursevenfive.com

Aegis Energy Services (Table 42)

NESEA Business Member

Aegis Energy Services, Inc. is an innovative Combined Heat and Power (CHP) company based in Holyoke, MA. Founded in 1985, Aegis Energy Services' modular systems are currently utilized across the Northeast and Mid-Atlantic providing sustainable, clean power options for a wide array of customers.

www.aegisenergyservices.com

Ahbm LLC (Table 31)

The pre-fabricated Ahbm radiant heating and cooling system kit provides all of the necessary parts for a complete system tucked away behind the materials of your walls and ceilings. Whether you are retrofitting your existing home, or building your dream home, the Ahbm system provides superior comfort and delivers the best possible indoor air quality for occupants. www.ahbm-radiant.com

Andrew R. Grisafi & Company/ Architectural Resource Group (Table 17)

NESEA Business Member

ARG & Company connects NYC and

the Greater New York Metro Area with custom, high-efficiency, handmade, and sustainable building products. We provide clients with expert sales representation, material integration consultancy in both exterior and interior building product applications.

www.argandco.com

Aris Energy Services (Table 27)

NESEA Business Member

Aris Renewable Energy, LLC is a metropolitan NYC-based renewable energy firm that has partnered with Airsynergy to promote, sell, and service its Enhanced Wind Turbine products and Ventilation Exhaust products in North and South America. www.ariswind.com

Association for Energy Affordability (AEA) (Table 9)

NESEA Business Member

AEA provides energy technical services and training and implements government and utility energy efficiency programs, with a specialization in multifamily and affordable housing. AEA is a NYSERDA Multifamily Building Solutions Provider and Partner for both existing buildings and new construction. We provide investment grade energy audits, benchmarking, heating system specification development, IPNAs, retro-commissioning, and more for existing multifamily properties. Our energy efficiency and Passive House consulting and verification services help to ensure that new buildings meet their energy goals and are economical to operate.

www.aea.us.org

Bright Power (Table 49)

Bright Power is a leading provider of energy efficiency, renewable energy and green buildings solutions for multifamily, commercial and industrial buildings. Our services include: energy benchmarking

including our EnergyScoreCards software, energy audits, financial and technical feasibility analysis, energy management, grant & rebate assistance, green building consulting and trainings for professionals and building managers. Our design and installation services include: solar electricity and solar thermal systems, heating, cooling & HVAC systems, lighting systems, construction management and commissioning. www.brightpower.com

Cascadia Windows & Doors (Table 19)

Cascadia Windows manufactures fiberglass windows, doors, and fiberglass cladding support systems, with uncompromising quality and physical performance. When you explore one of our products – be it a sliding door with unsurpassed water penetration resistance, a commercial window with exceptional thermal performance, or a cladding support assembly that provides ASHRAE-compliance in the most cost effective manner available – you can count on every other aspect of the product being equally top-performing. www.cascadiawindows.com

Consolidated Edison Company of New York (Con Ed) (Table 1)

NESEA Business Member

Con Edison operates one of the world's largest energy delivery systems, providing energy for the 10 million people who live in New York City and Westchester County. We're constantly looking toward the future and exploring ways to innovate and take advantage of developing technology. But, more than anything, we're listening to you and working hard to give you cleaner, more efficient energy choices, and more control over when and how you use your power.

www.coned.com/energyefficiency

MEET THE EXHIBITORS

CUNY City College (Table 20)

The founding institution of the City University of New York, City College offers outstanding teaching, learning and research on a beautiful campus in the heart of NYC. Our classrooms are equipped with the technology for a truly interactive learning environment. Our libraries hold 1.5 million volumes and provide online access to the resources of the entire university. Our laboratories are engines of innovation, where students and faculty push the boundaries of knowledge. www.cuny.cuny.edu

Eco Supply Center (Table 14)

Distributor of eco-friendly interior building materials, all of which contribute points toward LEED projects. www.ecosupplycenter.com

European Architectural Supply (EAS) (Table 6)

NESEA Business Member

European Architectural Supply has been delivering windows of unrivaled craftsmanship and environmental sensibility for over twelve years. We specialize in high-efficiency windows and doors, custom-built in every style, from classic traditional designs to sleek modern aluminum windows and curtain walls. www.eas-usa.com

Fujitsu General (Table 37)

For over 40 years, Fujitsu has been working hard to make the world a more comfortable place. We have produced and shipped 3.5 million systems throughout the world annually to become one of the largest providers of ductless mini-splits in North America. www.fujitsugeneral.com

Global Wholesale Supply (Table 5)

NESEA Business Member

Global Wholesale Supply is a leading distributor of Steico Wood Fibre Insulation materials in North America.

Steico wood fibre insulation provides excellent energy savings and vapor open wall system options to meet the most demanding standards. Global Wholesale Supply is a Maryland based company that supplies product throughout North America, but emphasizes sales in the Northeast. www.globalwholesale.biz

Greenwich Energy Solutions (Table 18)

Greenwich Energy Solutions is one of the premier providers of independent energy solutions in the Northeast. We are proud to work with top facility operators and stakeholders to add value, increase comfort and improve efficiency of their assets while ensuring regulatory compliance. We are an independent energy efficiency partner that drives down operating costs for facility owners and operators and ensures compliance with the ever-changing landscape of new environmental and energy regulations. www.greenwichenergysolutions.com

Heat Watch (Table 36)

The only way to truly reduce fuel consumption, and ultimately save money, is if people, paired with the right technology, are watching, controlling and managing the entire boiler and heating systems of a given building. That's why Heat Watch was founded—not to sell computers, software, or monitoring services, but to own the responsibility of running boilers as an end-to-end service. www.heatwatch.com

Heat-Timer (Table 21)

NESEA Business Member

At Heat-Timer, our goal is to provide innovative, cost effective control solutions that enhance the comfort and efficiency of new and existing buildings. In doing so, we reduce the environmental impact of building heating systems worldwide — often within the imperfect framework of existing mechanical systems. www.heat-timer.com

Helix Rebar/ICF Panels

(Table 51)

Helix Micro Rebar is a twisted steel micro rebar technology that replaces most rebar and creates a concrete that is stronger and less resistant to cracking. Steve Bluestone is now developing a system that uses panelized Insulated Concrete Forms (ICFs) with Helix Micro Rebars to reduce cost/weight/material, shorten schedules, and increase the strength and quality of buildings from low- to high-rise. www.icfpanels.com

Huber Engineered Woods (Table 38)

NESEA Business Member

Huber Engineered Woods manufactures innovative, high-performance engineered flooring and sheathing panels. ZIP System panels contain integrated built-in protective barriers, eliminating housewrap/felt and providing continuous moisture and air barriers. AdvanTech Subflooring provides superior strength and moisture resistance under the toughest conditions. www.huberwood.com

InSoFast, LLC (Table 24)

NESEA Business Member

InSoFast, LLC manufactures single component continuous insulation panels. This panel combines do-it-yourself simplicity with cutting edge performance. InSoFast is an engineered alternative to the complex, multi-part conventional field assembled systems. With millions of square feet in place and thousands of happy customers, why work so hard just to do it right, when you don't have too? www.insofast.com

Integrated Environmental Solutions Limited (Table 22)

IES is recognized as a world leader in 3D performance analysis software that is used to design tens of thousands of energy efficient buildings across the globe. Our technology is supported by integrated consulting services and today

its capabilities are expanding from use on individual buildings to helping create sustainable cities. www.iesve.com

Johnson Controls (Table 15)

Johnson Controls is a \$42 billion global multi-industrial leader with multi-disciplinary expertise in complex engineering projects including automation, controls, energy efficiency, demand response, HVAC & systems integration. Our products & services optimize operational efficiencies for customers to get the most out of every unit of energy, water, & material resource used in their facilities. www.johnsoncontrols.com

Lötik Labs (Table 47)

Lötik Labs is a portfolio company of Samsung. The company has developed and deploys a non-intrusive wireless water monitoring system to help reduce water consumption, increase water transparency, and reduce costs. www.lotik.io

MaGrann Associates (Table 48)

MaGrann Associates is an innovative energy/building consulting and engineering firm headquartered in Mount Laurel, New Jersey with additional offices in Pennsylvania, D.C., Kentucky, Ohio and Hawaii. Since 1982, it has partnered with clients to deliver exceptional performance in customized building design, program management, and green building certification. www.magrann.com

Marathon Engine Systems (Table 34)

Marathon Engine Systems (MES) is an applications-based company that designs systems for the distributed power industry. We sell our products globally and more than 3,000 of our engines were installed in a partnership in Germany - with PowerPlus Technologies that markets our microCHP (Combined Heat and Power) product throughout Europe. Our ecopower® won the 2011-2012 EPA ENERGY STAR Emerging Technology Award. www.ecopowermicrochp.com

Mitsubishi Electric Heating & Cooling (Table 12)

NESEA Business Member

For the past 30 years, Mitsubishi Electric Heating and Cooling has enhanced people's lives by improving comfort, conserving energy, and promoting environmental sustainability. As a leading marketer of intelligent and efficient air-conditioning and heating systems for new construction or renovation, our product lines include CITY MULTI Variable Refrigerant Flow Zoning systems and Mr. Slim Split-ductless A/C and Heat Pumps. www.mitsubishielectric-usa.com

National Grid (Table 50)

NESEA Business Member

National Grid, one of the world's largest utilities, connects consumers to energy sources through its networks. In the United States, National Grid delivers electricity to approximately 3.3 million customers in Massachusetts, New York, and Rhode Island. The largest distributor of natural gas in the northeast, National Grid serves approximately 3.4 million customers. www.nationalgridus.com

New York State Energy Research and Development Authority (NYSERDA) (Table 2)

NESEA Business Member

NYSERDA offers objective information, innovative programs, technical expertise, and funding to help New Yorkers increase energy efficiency, save money, use renewable energy, and reduce reliance on fossil fuels. A public benefit corporation, NYSERDA has been advancing innovative energy solutions since 1975. www.nyserda.ny.gov

NORESCO (Table 29)

NORESCO offers a full suite of energy efficiency and sustainable design consulting services. Our services include energy auditing, commissioning and retro-commissioning, energy and daylight modeling, LEED® certification

consulting, WELL Certification Consulting and sustainability master-planning. Additionally, NORESKO is one of the largest energy services companies in the U.S. We use a variety of performance-based contracting vehicles to deliver energy and maintenance savings and significant infrastructure upgrades to existing facilities. www.noresco.com

Noveda Technologies (Table 25)

NESEA Business Member

Noveda Technologies is an innovative leader in real-time, web-based energy and water monitoring. The company's patented software solutions help reduce energy and water usage, optimize performance of renewable energy systems, and reduce the carbon footprint for customers across commercial, retail, government, education, and utility sectors. www.noveda.com

Passive House Institute US (PHIUS) (Table 41)

PHIUS is a 501(c)(3) organization committed to making high-performance passive building the mainstream market standard. It develops and promotes North American specific standards, practices, and certifications for buildings, professionals, and products to create structures that are durable, comfortable, healthy, and super energy efficient. Through its Passive House Alliance US (PHAUS) program, a membership-based organization with over 800 members across 18 local chapters and dozens of corporate sponsors, PHIUS is building a robust network of passive building communities across North America. www.phius.org

Philips Lighting (Table 4)

NESEA Business Member

Philips Lighting is shaping the future with exciting new lighting products and technologies. LED lighting is changing the world, and Philips Lighting is a leading LED manufacturer. We invest deeply in research, development, and product

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solutions. It's more than a mastery of technology, it's knowing what people need. www.usa.lighting.philips.com

PROSOCO (Table 28)

PROSOCO is a national manufacturer of products for cleaning, protecting concrete and masonry; and making building envelopes air- and water tight. We strive to provide innovative products and services that improve the appearance and performance of our built environment. www.prosoco.com

Quadlogic Controls (Table 52)

Quadlogic provides a complete line of Advanced Submetering and Utility Metering Products. Quadlogic's Smart Electric Power Meters can be used in any standard residential, commercial, or industrial electrical system. All QLC Smart Meters have our patented, frequency-agile Power Line Communications (PLC) technology built-in. QLC Advanced Meters can log pulses from other devices such as gas, water, fuel, BTU meters for a complete remote utility billing service. www.quadlogic.com

Radiator Labs (Table 46)

Radiator Labs, winner of the 2012 MIT Clean Energy Prize, the 2014 Popular Science Innovation Award, and the 2014 Verizon Powerful Answers Award, has developed a product that eliminates the waste implicit in steam heated buildings. The Radiator Labs system features the "Cozy", a wireless, low-cost, and easily installed retrofit that drops on top of radiators, allowing room-level indoor temperature control in buildings with radiator heat, and granting this control to management and/or tenants via web and mobile apps. www.radiatorlabs.com

Retrotec (Table 30)

NESEA Business Member

Retrotec is the world's leading manufacturer of door fans, duct testers, digital manometers and air leakage testing software. Our equipment is used

to conduct residential energy audits, large building air leakage measurements, duct leakage tests and clean agent integrity tests. www.retrotec.com

ROXUL (Table 16)

Roxul Inc. is a division of Rockwool International - the world's largest mineral or stone wool manufacturer. We manufacture batts for stud walls, semi-rigid boards for exterior walls and rigid products for roofs. Stone wool is non-combustible, water repellent, sound absorbent, and environmentally sustainable. www.roxul.com

Siga Cover (Table 13)

NESEA Business Member

SIGA is a leading manufacturer, with over 40 years of experience producing and supporting High Performance air, weather, and vapor tight tapes and membranes for the building envelope. www.sigacover.com

Steven Winter Associates, Inc. (Table 33)

NESEA Business Member

Steven Winter Associates, Inc. provides research, consulting and advisory services to improve commercial, residential and multifamily built environments for private and public sector clients. We specialize in energy, sustainability and accessibility consulting as well as certification, research & development and compliance services. Our engineers and architects have led the way since 1972 in the development of best practices to achieve high performance buildings. www.swinter.com

Tecogen (Table 45)

NESEA Business Member

Tecogen's InVerde/INV-100 Inverter-Based Cogeneration Module produces electricity and hot water for commercial, institutional, and industrial facilities. The InVerde offers full "black-start" capability and is UL 1741 and 2200 certified for simplified grid interconnection. The

INV-100 can cut energy costs and GHG emissions by 40%. www.tecogen.com

Ventacity Systems (Table 32)

NESEA Business Member

Ventacity Systems designs and ships next-generation intelligent ventilation systems for the small and medium commercial building market. Its products are part of a system that can save buildings over 60% of their Heating, Ventilation, and Air Conditioning (HVAC) energy consumption and make the building Indoor Air Quality ("IAQ") healthier. While commercial buildings consume 20% of the country's energy, of which half is expended on HVAC, few energy gains have transpired over the past 30 years. As the first American manufacturer to produce a commercial capacity HRV with the Passive House Institute certification, Ventacity Systems is an leader in efficiency and systems management in the industry www.ventacity.com

Willdan (Table 35)

Founded in 1964, Willdan Group, Inc. is a leading nationwide provider of value-added professional technical and consulting services. The primary markets Willdan serves are: energy; infrastructure & transportation; municipal engineering, planning & staff augmentation; economic & financial analysis; and homeland security & emergency management. www.willdan.com

Zehnder America (Table 10)

NESEA Business Member

Zehnder specializes in high-performance ventilation solutions to promote comfortable, healthy, and energy-efficient indoor living. As an important component of an energy-efficient home or multi-family building, Zehnder's heat recovery ventilation systems typically recover over 90% of the room temperature and ensure fresh filtered air for the inhabitants year-round. www.zehnderamerica.com

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